Applicants' remarks and amendments, filed on December 17, 2009, have been carefully considered. With the entry of said amendments, claims 18 and 19 have been canceled; no new claims have been added.

Claims 1-6, 12, 15-17, 23-34, 36, and 37 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on May 13, 2005.

Drawings

The drawings filed on May 13, 2005, are accepted by the Examiner.

Withdrawn Rejections

The following rejections stated in the previous Office Action have been withdrawn in view of Applicants' amendments:

1) The 112(2) rejection of claims 1-6, 12, 15-19, 23-34, 36, and 37,

2) The 103(a) rejection of claims 1-6, 12, 24, 25, 32-34, and 36 as being unpatentable over WO 00/17102 in view of Hwang et al. (U. S. Patent No. 6,855,376),

3) The 103(a) rejection of claims 1, 2, 12, 15, 18, 19, 24, 25, 29-34, 36, and 37 as being unpatentable over Resasco et al. (U. S. Patent No. 6,413,487) in view of Hwang et al. (U. S. Patent No. 6,855,376),

4) The 103(a) rejection of claims 4-6, 16, 17, 21, and 24-26 as being unpatentable over Resasco et al. (U. S. Patent No. 6,413,487) in view of Hwang et al. (U. S. Patent No. 6,855,376), as applied to claims 1 and 15, and further in view of Someya et al. (U. S. Patent No. 6,967,013), and

5) The 103(a) rejection of claims 1, 2, 12, 15, 18, 19, 24, 25, 29-34, 36, and 37 as being unpatentable over Resasco et al. (U. S. Patent No. 6,413,487) in view of Hwang et al. (U. S. Patent No. 6,855,376), as applied to claim 1, and further in view of Arakawa (U. S. Patent No. 4,572,813).

The above-cited references, either alone or in combination, fail to teach or suggest the employment of finely divided substrate particles having substantially smooth faces with radii of curvature of more than 1 μm, and of length and breadth between 1 μm and 5 mm. The above-cited references also fail to teach or suggest that these substrate particles are freshly prepared by colloidal processing, electroless deposition, solvent drying, supercritical drying, sputtering, physical vapour deposition, or electroplating. These features are critical to the claimed process for producing aligned carbon nanotubes.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven J. Frank on March 8, 2010.

The application has been amended as follows:

a. Please re-write claim 23 as follows:

--Claim 23 (currently amended). A method as claimed in claim ~~22~~ 1, wherein the catalyst ~~precursor~~ material is ferrocene, nickelocene, cobaltocene, iron pentacarbonyl, or nickel pentacarbonyl.--

Claim 23 has been amended to return it to its form as it appeared in Applicants' amendment filed on June 9, 2009, and to ensure proper antecedent basis by deleting the word "precursor" and inserting therefor the word "material".

Allowable Subject Matter

3. Claims 1-6, 12, 15-17, 23-34, 36, and 37 are allowed.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or suggest the claimed method for producing aligned carbon nanostructures, wherein (1) finely divided substrate particles having substantially smooth faces with radii of curvature of more than 1 μm, and of length and breadth between 1 μm and 5 mm, said particles having a catalyst material on their surface and (2) a carbon-containing gas at a temperature and pressure at which the carbon-containing gas will react to form carbon when in the

presence of the catalyst material are provided, and aligned nanostructures are formed by the carbon-forming reaction.

The cited references if record also fail to teach or suggest that these substrate particles are freshly prepared by colloidal processing, electroless deposition, solvent drying, supercritical drying, sputtering, physical vapour deposition, or electroplating. These features are critical to the claimed process for producing aligned carbon nanotubes.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin C. Mayes, can be reached on (571) 272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/
Primary Examiner, Art Unit 1793
March 12, 2010